Promises and limitations of telepsychiatry in rural adult mental health care

BRIAN GRADY

Department of Psychiatry, School of Medicine, University of Maryland, 701 W. Pratt St., Baltimore, MD 21201, USA

Pioneers in telemedicine demonstrated as early as in the 1960s the effectiveness and acceptance of mental health administration, education and clinical treatment through the electronic medium. Two-way television was conducted in black and white, with limited audio fidelity and often on fairly small video screens. Furthermore, it was expensive. None the less, these early pioneers designed experiments to address the main problem of the time, access to quality health care.

The focus of research at Dartmouth Medical School was providing care, via collaboration with local primary care and psychologists, to seriously mentally ill persons in their own community rather than transporting them to a hospital 27 miles away (1). The use of two-way television and the outcomes of the research were successful. C. Wittson (2,3), along with his research into individual and group therapies by two-way television, also demonstrated that expertise in the form of administrative oversight, psychiatric education and supervision could be transported via electronic means to distant sites. Again, it was expensive. We did not yet have cost effective technology to expand beyond research. By 1973, however, we did have a name for psychiatric care via two-way interactive television: telepsychiatry (4).

Advances in technology in the 1980s and early 1990s led to a reduction in telemedicine costs and provided many with visions of a revolution in health care delivery. We could see the potential of reaching out to patients on a regular basis to provide specialty care that was not available or had limited availability in distant communities. Telepsychiatry also offered choice to small communities, an aspect of the access problem that is rarely emphasized.

Large color monitors, updated at 30 frames per second with barely perceptible lag time, continued to melt away the distance between care giver and receiver. Telepsychiatry was now affordable to health care organizations (5). The American Telemedicine Association was established (6). Clinical champions began to share success stories at conferences, and case reports appeared with more frequency in the general medical literature as well as telemedicine specific journals.

By the mid 2000s, the costs of feature packed standalone encrypted videoconferencing units and videoconferencing client software hit its nadir. Coupled with advances in high speed telecommunications capacity using the Internet, its low relative costs and the Internet's growing accessibility, a revolution was certainly at hand. Unfortunately, despite more practitioners, health care applications and supporters of telemedicine, its incorporation into the day to day practice of health care did not materialize.

We had not done enough to educate our colleagues, health care or government leaders. Health care facilities were and continue to wrestle with the investment opportunity costs. Even academic psychiatry departments are slow to redistribute resources, including psychiatry residents in training, from traditional roles to ones involving significant use of technology (7). Acceptance of technology depends to a large extent on perceived usefulness and ease of use (8).

Practicing from a distance also requires significant administrative support in record maintenance, dispatching prescriptions, and coordinating schedules, while information technology departments are guarding their networks so tight that needed electronic health information often does not flow across the firewall. Today, transversal units and parallel video networks are solving some of the anxieties of health information technology engineers and managers. However, incorporation of electronic health records and electronic prescriptions, truly needed to imbed telepsychiatry seamlessly into everyday practice, is only slowly penetrating the health care market in many countries (9-11).

Naturalistically, telepsychiatry developed where the need and advocacy were greatest, i.e. rural and frontier areas. In the United States, for example, early leaders in clinical and regulatory adoption were states with small pockets of population spread over vast geographical areas. These communities were not large enough to support the practices of specialty or subspecialty medical providers. Collectively, however, these groups of small populations were statistically similar to suburban or urban populations in epidemiology of mental illness. Telepsychiatry clinical champions, along with local and regional political and government leaders, became advocates, and funding for many rural and frontier telepsychiatry pilot projects began. Due to its unique adaptability to an audio visual medium, psychiatry quickly became a leader in the telemedicine field.

Telepsychiatry has established itself as a viable health care delivery modality. It has been the first in telemedicine to look at itself in a comprehensive and evidence based manner (12). Psychiatric evaluations, medication management, and cognitive behavioral therapies have sufficient evidence to be considered fully equivalent to in-person treatment.

Nuances in telepsychiatry and their potential applications are an area that needs additional research. Anecdotal reports of patients with eating or post-traumatic stress disorders divulging more information in telepsychiatry than in in-person sessions need to be carefully assessed (13,14). It may be easy

to overlook the potential risks for patients in divulging information too quickly, before they know what to do with their emotions related to repressed thoughts. Are telepsychiatrists aware of these possible phenomena, so they can recognize and assist the patient in managing this cathartic information safely? These are questions for all of telepsychiatry, not just rural health care delivery.

Telepsychiatry redistributes resources, but does not necessarily create them. Telepsychiatry programs within organizations and academic centers start out very successful with clinical champions, usually providers, quickly establishing clinical practices themselves or with a colleague. Clinical time, however, is rapidly saturated. Recruiting additional providers to serve rural areas, full or part-time, puts them in competition with existing organizational psychiatry resources. Additionally, unless the leadership in the organization or government is committed to the prospects of changing the way they deliver mental health care and reallocating resources, they are doomed to limited success at best.

It is paramount that rural partners appreciate the limitations in psychiatric resources and, like their urban telepsychiatrists, are willing to look at new ways of mental health care delivery and collaboration (15,16). Rural clinics may consider bartering with other rural clinics or providers for services. For example, if one clinic has a therapist with eating disorder experience, they may barter that therapist's time for time from a general psychiatrist in another rural clinic. Rural clinics should consider forming mental health cooperatives where limited resources can be exchanged, resulting not in more resources, but more effective use of existing resources and subsequent gains in beneficial outcomes and efficiency.

There are several applications of telepsychiatry that are particularly suited for rural populations. One of these is group therapy. This may be the ideal treatment for some illnesses that already bring isolation or that require interpersonal interaction to identify and change unhealthy interpersonal behaviors (17,18). The challenge with group therapy, even in urban and suburban areas, is reaching the critical mass of patients needed for the group to be successful. Telepsychiatry can bring small numbers of patients together from several locations; usually 3-4 sites can interact on an appropriately sized monitor in one multipoint meeting.

Telepsychiatry can also provide relief to rural inpatient as well as outpatient psychiatrists (19). Time can be used for vacations, respite, and training. Telepsychiatry also allows for subspecialty consultation for both inpatients and outpatients to rural community hospitals. It reduces isolation and provides collegiality and support.

Since telepsychiatry results in a redistribution of resources, it is particularly important for cultural awareness to be at the forefront of this delivery modality (20). Telepsychiatry provides a great alternative to accessing culturally competent psychiatrists for particular communities or particular patients (21,22). For example, Deaf Addictions, School of Medicine, University of Maryland has reached out to rural areas of the state with culturally competent, signing addiction counselors. Using videoconferencing and their knowledge and experience in the culture, these counselors are able to communicate in real time with deaf and hearing impaired clients, a significant improvement over typing or video relay (interpreter). If culturally and linguistically competent providers are not available, then culturally competent medical interpreters via videoconferencing can still provide a significant improvement in communication and care to isolated rural populations.

I see much promise for telepsychiatry in rural areas, provided we are delivering what is needed by our patients. For me, the gift of time is the critical healing factor in the therapeutic relationship whether in person or via technology. A patient's "thank you for your time" is a profound statement and it can transcend technology. Some patients will need little of this factor, while others will need more. Electronic mail, instant messaging and texting also require a gift of time and may be cost effective alternatives to more expensive and technology dependent interactive video conferencing.

By looking at our telepsychiatry history, it is easy to see how the limitations to telepsychiatry continue to diminish. Technology has solved many issues, while mental health providers have looked to adaption and nuances to identify telepsychiatry's niche in health care delivery and care.

Telepsychiatry is fluid, adaptable and titratable, and its only limitations are in the mind of the user.

References

1. Solow C, Weiss RJ, Bergen BJ et al. 24-hour psychiatric consultations via TV. Am J Psychiatry 1971;127:1684-7.
2. Wittson CL, Affleck DC, Johnson V. Two-way television in group therapy. Mental Hospitals 1961;2:22-3.
3. Wittson CL, Benschoter R. Two-way television: helping the medical center reach out. Am J Psychiatry 1972;129:136-9.
4. Dwyer TF. Telepsychiatry: psychiatric consultation by interactive television. Am J Psychiatry 1973;130:865-9.
5. Grady B. TelePsychiatry. In: Wise MG, Rundell JR (eds). Textbook of consultation-liaison psychiatry. Washington: American Psychiatric Press, Inc., 2001:927-36.
6. American Telemedicine Association. What is telemedicine & telehealth? www.americantelemed.org.
7. Graham-Jones P, Jain SH, Friedman CP et al. The need to incorporate health information technology into physicians' education and professional development. Health Aff 2012;31:481-7.
8. Davis FD. Perceived usefulness perceived ease of use, and user acceptance of information technology. MIS Quarterly 1989;13:319-40.
9. Singh R, Lichter MI, Danzo A et al. The adoption and use of health information technology in rural areas: results of a national survey. J Rural Health 2012;28:16-27.
10. Yoon D, Chang BC, Kang SW et al. Adoption of electronic health records in Korean tertiary teaching and general hospitals. Int J Med Inform 2012;81:196-203.
11. de la Torre I, González S, López-Coronado M. Analysis of the EHR systems in Spanish primary public health system: the lack of interoperability. J Med Syst (in press).
12. Grady B, Myers KM, Nelson EL et al. Evidence-based practice for telemental health. Telemed J E Health 2011;17:131-48.
13. Simpson S, Knox J, Mitchell D et al. A multidisciplinary approach to the treatment of eating disorders via videoconferencing in north-east Scotland. J Telemed Telecare 2003;9(Suppl. 1):S37-8.

14. Thomas CR, Miller G, Hartshorn JC et al. Telepsychiatry program for rural victims of domestic violence. Telemed J E Health 2005;11:567-73.
15. Pignatiello A, Teshima J, Boydell KM et al. Child and youth telepsychiatry in rural and remote primary care. Child Adolesc Psychiatr Clin N Am 2011;20:13-28.
16. Chung-Do J, Helm S, Fukuda M et al. Rural mental health: implications for telepsychiatry in clinical service, workforce development, and organizational capacity. Telemed J E Health (in press).
17. Frueh BC, Monnier J, Yim E et al. A randomized trial of telepsychiatry for post-traumatic stress disorder. J Telemed Telecare 2007;13:142-7.
18. Morland LA, Pierce K, Wong MY. Telemedicine and coping skills groups for Pacific Island veterans with post-traumatic stress disorder: a pilot study. J Telemed Telecare 2004;10:286-9.
19. Grady B, Singleton M. Telepsychiatry "coverage" to a rural inpatient psychiatric unit. Telemed J E Health 2011;17:603-8.
20. Shore JH, Savin DM, Novins D et al. Cultural aspects of telepsychiatry. J Telemed Telecare 2006;12:116-21.
21. Mucic D. Transcultural telepsychiatry and its impact on patient satisfaction. J Telemed Telecare 2010;16:237-42.
22. Lee O. Telepsychiatry and cultural barriers in Korea. Stud Health Technol Inform 2009;144:145-8.